



State of Idaho

DEPARTMENT OF WATER RESOURCES

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DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

January 24, 2005

ANTELOPE VALLEY RANCH LLC
2411 WHALER COURT
VIRGINA BEACH, VA 23451
Attn: Jon L. Manetta

Dear Jon,

IDWR staff has reviewed the plans you submitted for the weirs to be located downstream of headgates on Antelope Creek. The 7-foot weir shared with David Keele is adequate, subject to the modification listed in 1.) below. It should be noted that this weir could be reduced in size to 4-feet to provide more accurate measurements at low flows.

The 4-foot weir located downstream of the 36-inch culvert is adequate, provided it is placed at least 30-feet downstream of the culvert, and not 60-inches as indicated on the plan. This weir should also include a staff gage as described in 1.) below.

The existing concrete apron structure located on the headgate on the Cherry Creek diversion points should also be adequate, modified as described below:

1. A staff gage or ruler is needed on the upstream side of the weir opening. The staff gage should be securely anchored to the channel bank, and zeroed to the bottom of the weir opening. It should be located at least 2-feet upstream of the weir opening.

The equation for this Cherry Creek weir should be $Q = 42 \times H^{3/2}$ where H is the gage reading in feet, and Q is in cubic feet per second, or use $Q = 2100 \times H^{3/2}$ for Q in miner's inches.

Use of inline flow meters installed to manufacturers specs is also acceptable for the sprinklers described in your letter of January 13, 2005. The locking headgate structures shown on plans and described in your letter are also adequate.

This letter should be considered as certification of approval that the proposed measuring devices, as modified per descriptions above, meets or exceeds IDWR standards. If you have further questions, call me at 208-287-4957.

Sincerely,


Steve Burrell, P.E.
Water Distribution Section

c: IDWR – Eastern Region
Bob Duke, Watermaster – WD 34, Mackay
2005 WD 34 file